



- 30 (A) Except as provided in Subsection (B), this chapter applies to an  
31 OWRS installed and operated on a site that includes multi-family  
32 and non-residential buildings and that receives retail water service  
33 from Austin Water or a successor department.
- 34 (B) This chapter does not apply to an OWRS installed and operated on a  
35 site that:
- 36 (1) receives retail water service from an entity other than Austin  
37 Water or successor department;
- 38 (2) contains only one- or two-family dwellings, including detached  
39 one- and two-family dwellings and multiple single-family  
40 dwellings (townhouses);
- 41 (3) reuses industrial process wastewater that is regulated under  
42 Chapter 210 Subchapter E (*Special Requirements for Use of*  
43 *Industrial Reclaimed Water*) of Title 30 of the Texas  
44 Administrative Code; or
- 45 (4) reuses blackwater or domestic wastewater that is regulated  
46 under Chapters 210 (*Use of Reclaimed Water*) and 321 (*Control*  
47 *of Certain Activities by Rule*) of Title 30 of the Texas  
48 Administrative Code.

49 **§ 15-13-2 – RULEMAKING.**

- 50 (A) The director may adopt rules under Chapter 1-2 (*Adoption of Rules*)  
51 to implement, administer, and enforce this title.
- 52 (B) In addition to rules, the director may:
- 53 (1) issue written interpretations of this chapter as necessary to  
54 ensure this chapter is implemented in a manner consistent  
55 with applicable state and federal law; and
- 56 (2) establish written procedures to implement this chapter.
- 57 (C) A rule, interpretation, or procedure adopted under this chapter may  
58 address:
- 59 (1) the usage, permitting, treatment, monitoring, reporting, and  
60 compliance requirements of an OWRS; and

61 (2) other factors the director believes are necessary for the safe  
62 and effective use of an OWRS.

63 **§ 15-13-3 – AUTHORITY.**

64 The director administers, implements, and enforces this chapter.

65 **§ 15-13-4 – DEFINITIONS.**

66 The following terms are applicable to this chapter:

67 (1) AIR GAP means a physical separation between the free-  
68 flowing discharge end of a potable water system pipeline and  
69 an open or non-pressure receiving vessel as defined in Section  
70 290.38 (*Definitions*) of Title 30 of the Texas Administrative  
71 Code.

72 (2) ALTERNATIVE WATER SOURCE means a source of non-  
73 potable water that may include any of the  
74 following: condensate water, graywater, rainwater, stormwater,  
75 foundation drain water, and any other source approved by  
76 the director.

77 (3) BLACKWATER means domestic wastewater.

78 (4) CERTIFIED LABORATORY means an environmental testing  
79 laboratory certified by an accepted state accreditation program  
80 or the National Environmental Laboratory Accreditation  
81 Program. Laboratories must be certified to perform each test for  
82 which they are providing results.

83 (5) CONDENSATE WATER means water produced in a heating,  
84 ventilation and air conditioning (HVAC) system as the result of  
85 evaporative cooling.

86 (6) CONDITIONAL PERMIT means a permit issued under Section  
87 15-13-11 (*Conditional Permit*).

88 (7) CONDITIONAL PERMITTEE means a person who holds a  
89 conditional permit.

- 90 (8) CONTINUOUS MONITORING means ongoing confirmation  
91 of system performance using sensors for continuous  
92 observation of selected parameters, including surrogate  
93 parameters that are correlated with pathogen log reduction  
94 targets (LRTs).
- 95 (9) COOLING TOWER MAKEUP WATER means water added to  
96 a cooling tower to replace water lost to evaporation or blow-  
97 down.
- 98 (10) CROSS CONNECTION means an actual or potential  
99 connection to a public or private water system through which  
100 it is possible to introduce contamination or pollution.
- 101 (11) DIRECTOR means the director of Austin Water.
- 102 (12) DISINFECTION means a physical or chemical process,  
103 including, but not limited to, ultraviolet radiation, ozonation,  
104 and chlorination that is used for removal, deactivation, or  
105 killing of pathogenic microorganisms.
- 106 (13) DISTRICT-SCALE PROJECT means an OWRS for a defined  
107 service area that covers two or more lots, tracts, land uses, or  
108 site plans and may cross public rights-of-way.
- 109 (14) DOMESTIC WASTEWATER means wastewater which  
110 originates primarily from kitchen, bathroom, and laundry  
111 sources, including waste from food preparation, dishwashing,  
112 garbage grinding, toilets, baths, showers, and sinks of a  
113 residential dwelling. Domestic wastewater may contain  
114 commercial wastewater contributions.
- 115 (15) EFFLUENT means water leaving one or more of the treatment  
116 unit processes in an OWRS.
- 117 (16) ENFORCEABLE LEGAL AGREEMENT means a legally  
118 enforceable agreement defining the roles and responsibilities of  
119 each property owner or entity acting as a permittee, supplier, or  
120 user of an OWRS.
- 121 (17) FIRST FLUSH DIVERTER means a device operated by  
122 mechanical float valves or other types of automatic control that

123                   diverts a quantity of roof runoff collected from a surface  
124                   following the onset of a rain event.

125                   (18) FOUNDATION DRAIN WATER means groundwater that is  
126                   extracted to maintain a building's or facility's structural  
127                   integrity and would otherwise be discharged to the storm sewer.  
128                   Foundation drain water does not include groundwater extracted  
129                   for a beneficial use that is subject to City groundwater well  
130                   regulations or to regulation by a groundwater district.

131                   (19) GRAYWATER means wastewater from showers, bathtubs,  
132                   handwashing lavatories, sinks that are used for disposal of  
133                   household or domestic products, sinks that are not used for food  
134                   preparation or disposal, and clothes-washing machines.  
135                   Graywater does not include wastewater from the washing of  
136                   material, including diapers, soiled with human excreta, or  
137                   wastewater that has come into contact with toilet waste.

138                   (20) LEGACY SYSTEM means an OWRS installed prior to the  
139                   effective date of this chapter.

140                   (21) LOG REDUCTION means the removal of a pathogen or  
141                   surrogate in a unit process expressed in log units. A 1-log  
142                   reduction equates to 90% removal, 2-log reduction to 99%  
143                   removal, 3-log reduction to 99.9% removal, and so on.

144                   (22) LOG REDUCTION CREDIT means the log reduction value  
145                   credited to a treatment technology based on the technology's  
146                   ability to remove or inactivate pathogens and proposed  
147                   surrogate parameter for continuous monitoring.

148                   (23) LOG REDUCTION TARGET (LRT) means the required  
149                   removal efficiency for the specified pathogen group (e.g.,  
150                   viruses, bacteria, or protozoa) to achieve the identified level of  
151                   risk to individuals (e.g.,  $10^{-4}$  infections per year).

152                   (24) MONITORING REPORT means a report documenting the  
153                   operation and water quality results of an OWRS permitted  
154                   under this chapter.

- 155 (25) NEW OWNER means the record owner of a property that  
156 includes an OWRS after the director issues the initial operating  
157 permit.
- 158 (26) NON-POTABLE WATER means water that is not of drinking  
159 water quality, but which may be treated to be used for many  
160 other purposes such as irrigation, landscaping, or toilet or urinal  
161 flushing.
- 162 (27) OPERATING PERMIT means a permit issued to operate an  
163 OWRS.
- 164 (28) OPERATIONS AND MAINTENANCE MANUAL means a  
165 document providing comprehensive information about the  
166 OWRS operation, maintenance, and repair.
- 167 (29) OWRS means an onsite water reuse system that collects, treats  
168 and uses alternative water sources for non-potable uses at the  
169 building to district or neighborhood scale, generally at a  
170 location near the point of generation.
- 171 (30) PERMITTEE means a person who holds an operating permit or  
172 a conditional permit.
- 173 (31) PROCESS WATER means water used during manufacturing or  
174 processing that is not required to be of drinking water quality.
- 175 (32) PROJECT APPLICANT means the person applying for an  
176 operating permit before installing an OWRS.
- 177 (33) RAINWATER means precipitation or diffused surface water  
178 collected from roof surfaces or other above ground structures.
- 179 (34) RECLAIMED WATER means domestic or municipal  
180 wastewater which has been treated to a quality suitable for a  
181 beneficial use, but that is not suitable for drinking.
- 182 (35) RECORD OWNER means the owner of real property as shown  
183 by the deed records of the county in which the property is  
184 located.
- 185 (36) SITE SUPERVISOR in a district-scale project means the  
186 qualified person or entity designated by a user or a supplier to

187 oversee the operation and maintenance of the on-site  
188 distribution system and collection system and to act as a liaison  
189 to the treatment system manager and permittee.

190 (37) STORMWATER means precipitation or diffused surface water  
191 collected from surfaces at or below grade before it enters the  
192 bed and banks of a state watercourse or state water body.

193 (38) SUPPLIER means an entity that supplies an untreated  
194 alternative water source to the OWRS for treatment and reuse.  
195 A supplier may also be a permittee or user.

196 (39) SURROGATE PARAMETER means a measurable physical or  
197 chemical property that has been demonstrated to provide a  
198 direct correlation with the concentration of an indicator  
199 compound, can be used to monitor the efficiency of trace  
200 organic compounds removals by a treatment process, and  
201 provide indication of a treatment process failure.

202 (40) TREATMENT UNIT PROCESS means a physical, chemical or  
203 biological system that is intended to improve water quality.  
204 Examples include filtration, oxidation, adsorption, disinfection,  
205 and membrane filtration.

206 (41) TREATMENT SYSTEM MANAGER means the qualified  
207 person or entity responsible for the daily management and  
208 oversight of the OWRS.

209 (42) USER means an entity that accepts treated water from  
210 an OWRS for beneficial purposes within its area of occupancy.  
211 A user may also be a permittee or supplier.

212 (43) VALIDATION REPORT means a report documenting a  
213 detailed technology evaluation study that was conducted to  
214 challenge the treatment technology over a wide range of  
215 operational conditions.

216 (44) WATER BALANCE CALCULATOR means the calculator  
217 tool approved by the director that provides for the assessment  
218 of both potable and non-potable water demands as well as  
219 alternative water supplies for a development project.

220 § 15-13-5 – ALLOWED ALTERNATIVE WATER SOURCES.

221 (A) Under this chapter, the following alternative water sources may be  
222 used to supply an onsite water reuse system:

- 223 (1) Condensate water;
- 224 (2) Rainwater;
- 225 (3) Stormwater;
- 226 (4) Graywater; and
- 227 (5) Foundation drain water.

228 (B) The director may approve other alternative water sources under the  
229 variance procedure described in Article 7 (*Variances*).

230 § 15-13-6 – ALLOWED USES.

231 (A) Under this chapter, an OWRS may provide the following non-potable  
232 end uses:

- 233 (1) Indoor Use:
  - 234 (a) Toilet and urinal flushing;
  - 235 (b) Clothes washing in washing machines;
  - 236 (c) Trap priming;
  - 237 (d) Indoor decorative water features; and
  - 238 (e) Fire protection.
- 239 (2) Outdoor Use:
  - 240 (a) Subsurface irrigation;
  - 241 (b) Drip or other surface non-spray irrigation;
  - 242 (c) Spray irrigation;
  - 243 (d) Outdoor decorative water features;

- 244 (e) Cooling applications; and
- 245 (f) Dust control or street cleaning.

246 (B) The director may approve other uses of alternative water sources  
247 under the variance procedure described in Article 7 (*Variances*).

248 **§ 15-13-7 – PRE-CONSTRUCTION AND INSTALLATION**  
249 **REQUIREMENTS.**

250 (A) Before constructing or installing an OWRS, a person shall apply for  
251 an operating permit if required in Section 15-13-8 (*Operating Permit*  
252 *Required; Exceptions*).

253 (B) Before constructing or installing an OWRS, a person shall also obtain  
254 any approvals or permits required under Title 25 (*Land Development*  
255 *Code*).

256 (C) Before constructing or installing an OWRS, a person shall also obtain  
257 appropriate authorization for placement of any piping or other  
258 portions of an OWRS that must be located within the public right-of-  
259 way.

260 **§ 15-13-8 – OPERATING PERMIT REQUIRED; EXCEPTIONS.**

261 (A) Except as provided in Subsection (B), a person may not operate an  
262 OWRS without an operating permit.

263 (B) An operating permit is not required if the OWRS:

264 (1) is a condensate water, rainwater, stormwater, graywater, or  
265 foundation drain water sourced system that is constructed in  
266 accordance with applicable plumbing codes and used solely for  
267 subsurface irrigation, or for surface non-spray irrigation; or

268 (2) is a legacy system that is not modified or expanded to include a  
269 new allowable alternative water source or new allowable end  
270 use.

271 (C) A person who operates a legacy system must obtain a permit before  
272 modifying or expanding the legacy system.

273 (D) This subsection applies to an OWRS described in Subsection (B)(1).

274 (1) A person shall obtain an approval before installing an OWRS.

275 (2) A person shall submit an application, a water balance  
276 calculator, and any other applicable project information  
277 required by the director before installation.

278 **§ 15-13-9 – PERMIT APPLICATION.**

279 (A) A project applicant who submits an application for an operating  
280 permit must provide the following items to the director:

281 (1) a water balance calculator that includes:

282 (a) a description and location of the proposed or existing  
283 OWRS;

284 (b) a summary of water demands and supplies;

285 (c) user and supplier data; and

286 (d) any other information required by the director; and

287 (2) the application fee that is set by separate ordinance; and

288 (3) an engineering report that is on a form approved by the director  
289 and prepared by a qualified engineer licensed in Texas and  
290 experienced in the field of water and wastewater treatment.

291 (B) An application for an operating permit expires one year from the date  
292 of submittal if the engineering report has not been approved. A new  
293 application is required if the application expires.

294 (C) The director will not review an application, including the engineering  
295 report, until after the application fee is paid.

296 (D) The director may request revisions to initial and subsequent  
297 engineering report submittals.

298 (E) The record owner must sign the application.

299 (F) A record owner or the record owner's agent may file an application  
300 for an operating permit. The director may require a project applicant  
301 to provide evidence of the applicant's authority to file the application.

302 § 15-13-10 – INITIAL OPERATING PERMIT.

303 (A) The director may issue the initial operating permit after the  
304 engineering report and any updates are approved, if the OWRS is  
305 constructed in accordance with Title 25 (*Land Development Code*),  
306 the project applicant pays the annual permit fee, and the project  
307 applicant provides:

308 (1) a finalized operations and maintenance manual that complies  
309 with the requirements set forth in section 15-13-51 (*Operations*  
310 *and Maintenance Manual*);

311 (2) evidence of a contract with the designated treatment system  
312 manager who meets the requirements in Section 15-13-50  
313 (*Treatment System Manager Capacity*).

314 (3) evidence of a contract with a certified laboratory to perform  
315 water quality analysis;

316 (4) evidence of satisfactory performance of an initial cross  
317 connection test overseen by certified personnel from Austin  
318 Water's Special Services Division or other certified personnel  
319 as determined by the director;

320 (5) a signed and sealed engineer's letter stating that the OWRS was  
321 constructed in accordance with the approved engineering report,  
322 professionally sealed plans, specifications, and applicable  
323 sections of state and local code;

324 (6) evidence that the OWRS performs consistent with the approved  
325 engineering report if the director issued a conditional permit  
326 under Section 15-13-11 (*Conditional Permit*); and

327 (7) for district-scale projects only, an executed enforceable legal  
328 agreement as described in Section 15-13-61 (*Enforceable Legal*  
329 *Agreement*).

330 (B) Before a project applicant provides an engineer's letter that complies  
331 with Subsection (A)(5), the engineer who will seal the letter that  
332 complies with Subsection (A) (5) must conduct a construction  
333 verification inspection of the OWRS in the presence of the director

334 and the project applicant must correct any deficiencies identified  
335 during the construction verification inspection.

336 **§ 15-13-11 – CONDITIONAL PERMIT.**

337 (A) Before the director issues the initial operating permit, the director may  
338 issue a conditional permit to determine whether the OWRS performs  
339 consistent with the approved engineering report.

340 (B) A conditional permit is effective for 90 days unless otherwise  
341 specified by the director.

342 (C) A conditional permittee must:

343 (1) field verify treatment processes, instrumentation, water quality  
344 sampling, and any other aspects of the OWRS that are specified  
345 by the director;

346 (2) comply with the applicable requirements in Article 4  
347 (*Monitoring, Sampling, Reporting, and Notification*  
348 *Requirements*); and

349 (3) comply with applicable requirements in Article 5.

350 (D) Except as provided in Subsection (E), if the OWRS does not perform  
351 consistent with the approved engineering report, the director may  
352 reissue the conditional permit.

353 (E) If the OWRS does not perform consistent with the approved  
354 engineering report by the 361<sup>st</sup> day after the initial conditional permit  
355 was issued,

356 (1) the director may not reissue a conditional permit or an operating  
357 permit; and

358 (2) the project applicant must submit a new application that describes  
359 how the existing treatment design or instrumentation will be  
360 modified so that the OWRS will perform consistent with the  
361 approved engineering report.

362 **§ 15-13-12 – OPERATING PERMIT CONDITIONS.**

- 363 (A) A permittee shall comply with Article 4 (*Monitoring, Sampling,*  
364 *Reporting, and Notification Requirements*).
- 365 (B) Depending on the treatment processes used in the OWRS, the director  
366 may authorize a permittee to minimize or eliminate water quality  
367 sampling requirements if the permittee continuously monitors  
368 treatment system performance via surrogate parameters as detailed in  
369 Article 4 (*Monitoring, Sampling, Reporting and Notification*  
370 *Requirements*).
- 371 (C) The OWRS must meet all requirements of this chapter.
- 372 (D) An operating permit is valid for one year from the date it is issued.

373 **§ 15-13-13 – OPERATING PERMIT RENEWAL.**

- 374 (A) A permittee shall renew an OWRS' operating permit annually.
- 375 (B) A permittee must submit a renewal application and pay the annual  
376 license fee at least 60 days prior to the day the existing operating  
377 permit expires.
- 378 (C) In reviewing the application, the director may require additional  
379 information or actions so that the OWRS meets the requirements of  
380 this chapter.
- 381 (D) The director may deny a renewal application if the permittee fails to  
382 take required actions or pay the annual license fee.
- 383 (E) If the director denies the renewal application, the OWRS may not  
384 operate.
- 385 (F) The director may take any enforcement action set out in Article 8 if a  
386 person operates an OWRS without an active operating permit.

387 **§ 15-13-14 – PERMIT AMENDMENTS AND STRUCTURAL**  
388 **MODIFICATION.**

- 389 (A) A permittee may not modify the structural components of an OWRS  
390 or a structure that is connected to the OWRS until the director and, if

391 applicable, the director of the Development Services Department or  
392 successor department approve the modifications.

393 (B) A permittee must obtain an amended operating permit before the  
394 permittee:

395 (1) changes source water, end uses, end users, treatment, suppliers,  
396 or other system components; or

397 (2) increases the production of alternative water.

398 (C) The director may amend an operating permit when:

399 (1) a permittee submits a request to amend the permit; or

400 (2) the director determines that an amendment is required to protect  
401 the public health and safety.

402 (D) A request to amend an operating permit or to modify structural  
403 components must be on a form approved by the director and the  
404 applicant must pay a fee that is set by separate ordinance.

405 (E) A request described in Subsection (D) that includes a change to the  
406 treatment system process train and the change will affect the  
407 calculation of log reduction credits, must also include an engineering  
408 report sealed by a qualified engineer licensed in Texas.

409 **§ 15-13-15 –CHANGE OF OWNERSHIP.**

410 (A) Before a permittee transfers the property with an OWRS, the  
411 permittee must:

412 (1) notify the director of the proposed transfer at least 30 days  
413 before the date of transfer; and

414 (2) inform the new owner what this chapter requires.

415 (B) A new owner shall submit a completed change of ownership form  
416 within 30 days from the date the property transfers from the permittee  
417 to the new owner.

418 (C) If the director finds that the OWRS will operate in a manner that is  
419 inconsistent with the approved engineering report and operating  
420 permit, the director may require the new owner to amend the  
421 operating permit as set forth in Section 15-13-14 (*Permit Amendments*  
422 *and Structural Modifications*).

423 (D) A new owner becomes the permittee on the date the property transfers  
424 and is responsible for complying with this chapter. This applies even  
425 if the new owner fails to submit a completed change of ownership  
426 form.

427 **§ 15-13-16 – FEES.**

428 Fees assessed under this chapter shall be set by council under a separate  
429 ordinance.

430 **§ 15-13-17 DOCUMENT SUBMITTALS.**

431 A person, permittee, project applicant, or engineer required by this chapter  
432 to submit a document shall submit the document to the director.

433 **ARTICLE 2 – SYSTEM DESIGN REQUIREMENTS.**

434 **§ 15-13-20 – SYSTEM DESIGN.**

435 A project applicant shall design and construct the OWRS in a manner that  
436 complies with this article.

437 **§ 15-13-21 – CROSS-CONNECTION CONTROL AND MAKE-UP WATER**  
438 **SUPPLY.**

439 (A) The director may not issue a conditional permit or an initial operating  
440 permit until the project applicant completes cross-connection testing  
441 in accordance with Chapters 15-1 (*Cross Connection Regulations*) and  
442 25-12 (*Technical Codes*).

443 (B) The director may require a permittee to complete additional cross-  
444 connection testing at specified intervals.

445 (C) A project applicant shall install a containment Reduced Pressure  
446 Principle Backflow Prevention Device (RP) immediately downstream  
447 of the point of connection or water meter to protect the municipal  
448 water connection that serves the property with the OWRS, public  
449 water system, and recycled water system.

450 (D) A project applicant must provide a municipally supplied make-up  
451 water supply that is protected by either an air gap for graywater  
452 sourced systems or a RP for non-sewage sourced systems.

453 **§ 15-13-22 – FAIL-SAFE MECHANISMS.**

454 Each system must be equipped with features that allow for a controlled and  
455 non-hazardous automatic shutdown of the process in the event of a malfunction.

456 **§ 15-13-23 – FLOW METER.**

457 (A) An OWRS distribution system that provides treated water must  
458 include a flow meter.

459 (B) A pipeline that provides make-up water to an OWRS must include a  
460 flow meter.

461 (C) Any component of a district-scale OWRS that is not the main OWRS  
462 and collects, treats, receives, or distributes water must include a flow  
463 meter.

464 (D) This requirement applies to each property that collects, treats,  
465 receives, or distributes water from an OWRS.

466 **§ 15-13-24 – OVERFLOW.**

467 (A) A facility that treats or stores water from an OWRS must be designed  
468 and operated in a manner that complies with this section.

469 (B) A permittee may not allow graywater, condensate water, rainwater,  
470 stormwater, or foundation drain water to overflow except as set forth  
471 in this section.

472 (C) A permittee may not allow overflow into the sanitary sewer or storm  
473 sewer systems except as specifically described in this section.

474 (D) A permittee shall install an approved backwater valve to direct  
475 graywater, condensate water, rainwater, stormwater, or foundation  
476 drain water into the applicable discharge location.

477 (E) Graywater may overflow into the sanitary sewer or another approved  
478 discharge location.

479 (F) Condensate water may overflow into the sanitary sewer or another  
480 approved discharge location.

481 (G) Rainwater, stormwater, and foundation drain water may overflow to a  
482 storm sewer.

483 **§ 15-13-25 – PLUMBING CODE COMPLIANCE.**

484 For each property that collects, treats, receives, or distributes water from an  
485 OWRS, the permittee shall include components or design features that are required  
486 by applicable local and state plumbing codes, including:

487 (1) required signage maintained in good condition and free from  
488 damage or removal;

489 (2) for rainwater systems, a first flush diverter or debris excluder;

490 (3) tanks that receive or store untreated graywater which are  
491 properly vented; and

492 (4) a filter permitting the passage of particulates no larger than 100  
493 microns for OWRS supplying non-potable water to toilets,  
494 urinals, trap primers, and drip irrigation systems.

495 **§ 15-13-26 – IRRIGATION SYSTEM REQUIREMENTS.**

496 (A) This section applies to an OWRS that will provide non-potable water  
497 for irrigation purposes.

498 (B) A permittee shall not apply treated alternative water sources to  
499 designated irrigation areas during periods when soils are saturated and  
500 the treated water could runoff.

501 (C) A permittee may not allow treated alternative water sources to escape  
502 the designated irrigation areas as surface flow or spray that would  
503 either pond or enter surface waters.

- 504 (D) A permittee may not allow irrigation spray or irrigation runoff to:  
505 (1) enter a dwelling or food handling facility; or  
506 (2) contact any drinking water fountain.
- 507 (E) A permittee may not use graywater sourced systems for outdoor  
508 irrigation within the Edwards Aquifer Recharge Zone or within  
509 critical water quality zones.

510 **§ 15-13-27 – COOLING APPLICATION REQUIREMENTS.**

- 511 (A) This section applies to an OWRS that serves a cooling tower or that  
512 operates in a manner that can create a mist that could contact  
513 employees, members of the public, or building occupants.
- 514 (B) A permittee must:
- 515 (1) use a drift eliminator whenever the cooling system is in  
516 operation;
- 517 (2) use chlorine or other biocide to treat the cooling system  
518 recirculating water to minimize the growth of Legionella and  
519 other microorganisms; and
- 520 (3) include a management plan in the approved operations and  
521 maintenance manual.

522 **§ 15-13-28 – VECTOR AND ODOR CONTROL.**

- 523 (A) An OWRS must be constructed, operated, and maintained to prevent  
524 mosquito harborage and to minimize odors.
- 525 (B) A person must operate and maintain an OWRS as required by this  
526 section.
- 527 (C) Mosquito Harborage.
- 528 (1) Each drain, vent, and other conduit that leads to the system  
529 reservoir shall be screened with a durable fine mesh.
- 530 (2) The mesh required by this subsection must be no greater than  
531 one sixteenth of an inch.

- 532 (3) Gaps are not allowed around the mesh.
- 533 (D) All annular gaps around pipes that feed the reservoir shall be sealed  
534 with a durable, waterproof, and non-porous material.
- 535 (E) Each door opening to the reservoir must have a durable gasket and no  
536 gaps.
- 537 (F) A gap shall be sealed or screened.
- 538 (G) An OWRS may not emit odors.
- 539 (H) A person who treats, stores, distributes, reuses, or discharges  
540 alternative water sources creates a nuisance and threatens human  
541 health if the alterative water sources become a potential instrument or  
542 medium that transmits disease to or between persons.

543 **ARTICLE 3. – WATER QUALITY.**

544 **§ 15-13-30 – WATER QUALITY REQUIREMENTS.**

- 545 (A) A project applicant shall design and construct the OWRS to achieve  
546 the water quality requirements in this article.
- 547 (B) A permittee shall maintain and operate an OWRS to achieve the water  
548 quality requirements in this article.
- 549 (C) To meet the pathogenic microorganism control requirements for  
550 enteric virus, parasitic protozoa, and bacteria, an OWRS must include  
551 treatment processes that achieve LRTs as shown in Table 1.

552 **Table 1: Pathogen Log Reduction Targets**

<b>Alternate Water Source</b>	<b>Enteric Virus</b>	<b>Parasitic Protozoa</b>	<b>Bacteria</b>
Condensate Water	--	--	--
Rainwater	--	--	3.5
Stormwater	3.5	3.5	3.0
Stormwater Outdoor Use Only	3.0	2.5	2.0

Foundation Drain Water	3.5	3.5	3.0
Foundation Drain Water Outdoor Use Only	3.0	2.5	2.0
Graywater	6.0	4.5	3.5
Graywater Outdoor Use Only	5.5	4.5	3.5

553

554

(D) When operating pursuant to a conditional permit, an OWRS must meet the total coliform limits in Table 2, as well as the LRTs for bacteria.

555

556

557

(E) If the OWRS does not achieve the LRTs for bacteria as required in Subsection (D), the director may not issue an operating permit until the OWRS meets total coliform sampling requirements. .

558

559

560

561

562

**Table 2: Water Quality Limits for Total Coliform**

Sample Type	Water Quality Limit	Required U.S. EPA Standard Method
7-sample median	2.2 MPN / 100 mL	SM9223B
30-day maximum	23 MPN / 100 mL	
Absolute maximum	240 MPN / 100 mL	

563

564

(F) For a use with the potential for human contact, the OWRS must disinfect effluent with chlorine, ozone, ultraviolet radiation, or other approved agent.

565

566

567

(G) For an indoor use, the OWRS must maintain a minimum chlorine residual of 0.5 mg/L at or after the effluent enters the plumbing of the distribution system.

568

569

570

**§ 15-13-31 – GRAYWATER TREATMENT SYSTEMS.**

- 571 (A) This section applies to graywater treatment systems.
- 572 (B) A project applicant shall design and construct the OWRS to meet the  
573 requirements of this section.
- 574 (C) A permittee shall maintain and operate the OWRS to meet the  
575 requirements of this section.
- 576 (D) The OWRS must include a biological treatment process to remove  
577 particulate matter, biodegradable organics, and ammonia from  
578 graywater prior to use for non-potable applications.
- 579 (E) A permittee shall maintain and operate all graywater treatment  
580 systems in a manner that meets the water quality requirements  
581 established in Table 3 and the LRTs in Table 1.

582 **Table 3. Water Quality Requirements for Graywater Treatment Systems.**

Parameter	Water Quality Limit	Required U.S. EPA Standard Method
Biochemical Oxygen Demand (BOD <sub>5</sub> )	25 mg/L	SM5210B
Total Suspended Solids (TSS)	30 mg/L	SM2540D

583  
584 **ARTICLE 4. – MONITORING, SAMPLING, REPORTING, AND**  
585 **NOTIFICATION REQUIREMENTS.**  
586

587 **§ 15-13-40 – PATHOGENIC MICROORGANISM CONTROL LOG**  
588 **REDUCTION CREDITS AND CONTINUOUS MONITORING.**

- 589 (A) A project applicant shall design and construct an OWRS to meet the  
590 requirements in this section.
- 591 (B) A permittee shall maintain and operate an OWRS to meet the  
592 requirements in this section.
- 593 (C) Each treatment process used to meet a log reduction target must  
594 include continuous monitoring using the pathogenic microorganisms  
595 of concern or a microbial, chemical, or physical surrogate

596 parameter(s) that verifies the performance of each treatment process's  
 597 ability to achieve its credited log reduction.

598 (D) An engineering report must include evidence that the treatment unit  
 599 process can reliably and consistently achieve a specific log reduction  
 600 value. The engineering report must also include information about the  
 601 required operating conditions and the type of continuous monitoring  
 602 to be utilized.

603 (E) Table 4 identifies the log reduction credits that will be granted for  
 604 different unit processes and includes examples of required supporting  
 605 information.

606 (F) For unit processes that require a validation report, the permittee shall  
 607 submit a validation report that includes:

608 (1) evidence of the treatment technology's ability to reliably and  
 609 consistently achieve the log reduction value;

610 (2) information about the required operating conditions and  
 611 surrogate parameters that require continuous monitoring; and

612 (3) a letter that demonstrates a state public health official  
 613 previously accepted the report.

614 **Table 4: Treatment Process Log Reduction Credits**

Treatment Process	Maximum <sup>1</sup> Log Reduction Credits Virus/Protozoa/Bacteria	Information to be Included in an Engineering Report	Continuous Monitoring Requirements
Microfiltration or Ultrafiltration	0/4/0	Description and calculation of how the system defines an acceptable pressure decay test value per the EPA's Membrane Filtration Guidance Manual	Daily pressure decay test  Effluent Turbidity

		to detect 3.0 µm breach	
Membrane Biological Reactor (MBR)	1.5/2/4	Operation within the Tier 1 operating envelope <sup>2</sup>	Effluent Turbidity
Reverse Osmosis	2/2/2 (Dependent on surrogate parameter)	Manufacturer's information indicating ability to reject sodium chloride and description of/rationale for surrogate parameter used to calculate log removal credits	Influent and Effluent Total Organic Carbon (TOC) Or Influent and Effluent Electrical Conductivity
Ultraviolet (UV) Light Disinfection	6/6/6 (Dose Dependent)	UV reactor's Validation Report following state-approved procedures <sup>3</sup> or NSF/ANSI 55 Class A validated.	UV intensity Flow rate
Chlorine Disinfection	5/0/0 (CT dependent) Bacteria credit equivalent to virus credit can be granted if free chlorine is preceded by membrane filtration and up to 4-log removal for other filtration processes	Calculations demonstrating CT disinfection (CT = Chlorine Residual Concentration x Contact Time)  Specifics on how concentration and contact time will be determined	Free chlorine residual Flow rate

Ozone Disinfection	4/3/4 <sup>4</sup> (CT dependent)	Calculations demonstrating CT disinfection (CT = Ozone Residual Concentration x Contact Time)  Specifics on how concentration and contact time will be determined	Ozone residual  Flow rate
--------------------	-----------------------------------	---	---------------------------------

<sup>1</sup> Projects may seek higher credit with site-specific validation, alternative surrogates, or other approved methods.

<sup>2</sup> Tier 1 operating envelope is defined in the AWRCE Membrane bio-reactor WaterVal validation protocol, Australian Water Recycling Center of Excellence (AWRCE), Brisbane.

<sup>3</sup> UV Log Reduction Credits are reactor-specific and dose dependent. UV Validation Reports shall be prepared by a licensed engineer. Validation reports must provide evidence of reactor's ability to reliably and consistently achieve the log reduction value, including information on the required operating conditions and surrogate parameters that require continuous monitoring. The Validation Report shall document results based on validation testing finished utilizing one of the following: EPA UV Disinfection Guidance Manual (USEPA 2006), German UV Devices for the Disinfection for Drinking Water Supply Standard (DVGW 2006), or NWRI UV Disinfection: Guidelines for Drinking Water and Water Reuse, 3rd edition (NWRI 2012). Submitted validation reports must include a letter demonstrating the report has been accepted previously by a state public health official.

<sup>4</sup> Bacteria credit can be obtained for ozone according to the Tier 1 framework in the AWRCE Ozone WaterVal Validation protocol, which includes CT tables for waters with turbidity <0.15 NTU.

615

616

**§ 15-13-41 – MONITORING AND SAMPLING.**

617

618

(A) A treatment system manager must perform all water quality sampling required by Table 5 and the annual permit.

- 619 (B) A permittee violates this section if someone other than the treatment  
620 system manager performs water quality sampling required by this  
621 section.
- 622 (C) A treatment system manager shall collect water samples in a manner  
623 that complies with U.S. EPA Wastewater Standard Methods for the  
624 Examination of Water and Wastewater Method 9060B.
- 625 (D) A water sample required by this section must be analyzed:
- 626 (1) in a certified laboratory that uses the methods described in  
627 Table 3; or
- 628 (2) through an approved in-line monitoring devices that is as  
629 detailed in the approved engineering report.
- 630 (E) A treatment system manager shall collect and transport each sample in  
631 a manner that meets quality assurance and quality control (QA/QC)  
632 standards of the labs, including maintenance of required hold times  
633 and temperatures.
- 634 (F) To measure total coliform, BOD or TSS, a water sample must be  
635 collected from disinfected effluent.
- 636 (G) To measure chlorine residual, a water sample must be collected at or  
637 after entry to the plumbing of the distribution system.
- 638 (H) The director may request to be present during required water quality  
639 sample collections or require that the permittee use a third-party who  
640 is not the treatment system manager to take water quality sample  
641 collections.
- 642 (I) A project applicant shall install instrumentation with continuous  
643 monitoring capabilities.
- 644 (J) If a pathogen LRT or total coliform exceeds the limits in Tables 1 and  
645 2, the permittee shall notify the director in accordance with Section  
646 15-13-45 (*Malfunction Notification*).

647 **Table 5: Water Quality Sampling Requirements**

Parameter	Rain/Condensate		Stormwater/Foundation Drain		Graywater	
	Conditional	Operating	Conditional	Operating	Conditional	Operating
Total Coliform <sup>1</sup>	Weekly for Rainwater	Monthly	Weekly	Monthly	Weekly	Monthly
Chlorine Residual	Continuously at entry to end-use plumbing					
LRTs	Continuously as specified in the approved engineering report					
BOD <sub>5</sub>	N/A	N/A	N/A	N/A	Weekly	Monthly
TSS	N/A	N/A	N/A	N/A	Weekly	Monthly
Flow	Continuously measuring alternative water treated by the OWRS					

<sup>1</sup> Total coliform monitoring requirement may be eliminated after 12 consecutive months of consistent compliance.

648

649 **§ 15-13-42 – DIVERSION TO SEWER.**

650 (A) A conditional permittee shall:

651 (1) divert treated graywater to the sanitary sewer or to another  
652 approved discharge location;

653 (2) divert treated condensate water to the sanitary sewer or to  
654 another approved discharge location;

655 (3) divert treated rainwater, stormwater and foundation drainage to  
656 the storm sewer; and

657 (4) operate all fixtures in the building using the municipally  
658 supplied make-up water source.

659 (B) When operating an OWRS pursuant to a conditional permit, the  
660 director may allow: